

CLAIMS

WE CLAIM:

1. A system for managing graphical information, the system comprising:
a processing device; and
a first memory portion within at least one memory device that is coupled to the processing device, wherein the first memory portion stores
5 a first plurality of files having a first type of information relating to graphical entities, and
a second plurality of files having a second type of information relating to graphical entities,
wherein each of the second plurality of files references at least one
10 of the first plurality of files; and
a second memory portion within the at least one memory device, wherein the second memory portion duplicatively stores a first subset of the first plurality of files and a second subset of the second plurality of files,
wherein each of the files of the first subset are referenced by at least one of the
15 files of the second subset, and
wherein the first and second subsets have information relating to a first project.
2. The system of claim 1,
wherein at least a first portion of the first type of information relating to graphical entities relates to fundamental graphical information.
3. The system of claim 2, wherein the first type of information relating to graphical entities concerns models.
4. The system of claim 2, wherein the first portion of the first type of information includes information selected from the group consisting of primitive information, vertice information, face information, native color information, and native pivot information.
5. The system of claim 1, wherein each of the first plurality of files includes a numeric value, and each numeric value of each of the first plurality of files is different from each of the other numeric values of the others of the first plurality of files.

6. The system of claim 5, wherein each of the first plurality of files includes a name, and each name of each of the first plurality of files is different from each of the other names of the others of the first plurality of files.
7. The system of claim 1,
wherein at least a first portion of the second type of information relating to graphical entities relates to secondary graphical characteristics.
8. The system of claim 7, wherein the second type of information relating to graphical entities concerns objects and object assemblies.
9. The system of claim 7, wherein the first portion of the second type of information includes information selected from the group consisting of special color information, position information, scale information, orientation information, pivot offset information, and animation path information.
10. The system of claim 1, wherein each of the second plurality of files includes at least one reference by which the respective file refers to model information within one of the first plurality of files.
11. The system of claim 10, wherein each of the second plurality of files includes a numeric value, and each numeric value of each of the second plurality of files is different from each of the other numeric values of the others of the second plurality of files.
12. The system of claim 1, further comprising a third memory portion within the at least one memory device, wherein the third memory portion stores a third plurality of files, wherein each of the third plurality of files is related to a respective one of second subset of the second plurality of files.
13. The system of claim 12, wherein the third plurality of files stored within the third memory portion define a scene capable of being displayed on a graphical interface.
14. The system of claim 12, wherein each of the third plurality of files is an instantiated version of its corresponding file from the second subset.

15. The system of claim 14, wherein instantiation of the third plurality of files involves replacing at least some of the information of the second type with alternate information.

16. The system of claim 12, wherein the first memory portion is a graphics library, the second memory portion is an EPGFL, and the third memory portion is a scene memory portion, and wherein the second and third memory portions are comprised within a fourth memory portion that is a project file.

17. The system of claim 1, further comprising:

a third memory portion within the at least one memory device, wherein the third memory portion duplicatively stores an additional subset of the first plurality of files and another subset of the second plurality of files; and

5 communication means for sending and receiving graphical information to and from remote locations.

18. A method of managing information relating to graphical entities, the method comprising:

receiving selections of graphical entities to be incorporated into a project;

5 retrieving higher-level information concerning the selected graphical entities from a first memory portion;

storing the higher-level information concerning the selected graphical entities in a second memory portion associated with the project, wherein the higher-level information stored in the second memory portion is duplicative of the higher-level information stored in the first memory portion;

10 retrieving lower-level information concerning components of the selected graphical entities from the first memory portion; and

storing the lower-level information concerning the components of the selected graphical entities in the second memory portion, wherein the lower-level information stored in the second memory portion is duplicative of the lower-level information stored in the first memory portion.

19. The method of claim 18, wherein the components are models and the selected graphical entities include objects and object assemblies.
20. The method of claim 18, wherein each of the graphical entities is identified by a respective first identification number, wherein each of the first identification numbers of each of the graphical entities differs from every other of the first identification numbers, and each of the components is identified both by a respective name and a respective
5 second identification number, wherein each of the names of each of the components differs from every other of the names, and each of the second identification numbers of each of the components differs from every other of the second identification numbers.
21. The method of claim 18, further comprising:
receiving a command to create one of the components;
providing a template with fields to be completed;
receiving information to complete the fields; and
5 calculating the second identification number based upon the received information;
and
storing the lower-level information corresponding to the one component in the first memory portion, wherein the lower-level information includes the received information and an identification number.
22. The method of claim 21, wherein the received information concerns primitive information, vertice information, face information, native color information, native pivot information, and a name corresponding to the one component, wherein the received information is stored in a file corresponding to the one component.
23. The method of claim 18, further comprising:
receiving a command to create one of the graphical entities;
providing a template with fields to be completed;
receiving information to complete the fields; and
5 calculating a first identification number based upon the received information; and
storing the higher-level information corresponding to the one graphical entity in the first memory portion, wherein the higher-level information includes the received information and the first identification number.

24. The method of claim 23, wherein the received information includes information identifying at least one of the components as corresponding to the one graphical entity.

25. The method of claim 24, wherein the received information includes special color information, position information, scale information, orientation information, pivot offset information, animation path information, and a name corresponding to the one graphical entity, and wherein the received information is stored in a file corresponding to the one graphical entity.

26. The method of claim 18, further comprising:
providing a template with fields to be completed with substitute information intended to replace at least some of the higher-level information corresponding to one of the selected graphical entities;
receiving the substitute information to complete the fields; and
recalculating a first identification number associated with the one selected graphical entity based upon the received substitute information; and
storing a new graphical entity with new higher-level information including at least the recalculated first identification number and the substitute information in a third memory portion.

27. The method of claim 26, further comprising
displaying a scene on a graphical output device based upon the new higher-level information of the new graphical entity in the third memory portion.

28. The method of claim 18, further comprising:
receiving a command to modify one of the graphical entities;
providing a template with fields to be completed;
receiving information to complete the fields, wherein the received information is intended to replace at least a portion of the higher-level information corresponding to the one graphical entity; and
storing a modified version of the one graphical entity having modified higher-level information within at least one of the first and second memory portions, wherein the modified higher-level information includes the received information.

29. The method of claim 28, wherein the modified version of the one graphical entity is stored in place of the one graphical entity in both of the first and second memory portions.

30. The method of claim 18, further comprising:

storing additional higher-level and lower-level information in a third memory location, wherein the second and third memory locations together form a fourth memory location; and

5 sending all of the information in the fourth memory location to a remote destination, wherein the information stored in the fourth memory constitutes all graphical information relating to the project.

31. A method of managing information relating to graphical entities, the method comprising:

providing a memory portion in which is stored a first amount of graphical information including first information concerning a first plurality of graphical entities
5 and second information concerning a first plurality of components of the first plurality of graphical entities;

receiving a second amount of graphical information including third information concerning a second plurality of graphical entities and fourth information concerning a second plurality of components of the second plurality of graphical entities,

10 wherein each of the graphical entities of the first and second pluralities of graphical entities has a respective first identification number, and each of the components of the first and second pluralities of components has a respective second identification number; and

determining whether any of the second amount of graphical information conflicts
15 with any of the first amount of graphical information at least in part by comparing the respective first identification number of each of the graphical entities of the second plurality with each respective first identification number of each of the graphical entities of the first plurality, and by comparing the respective second identification number of each of the components of the second plurality with each respective second identification
20 number of each of the components of the first plurality.

32. The method of claim 31, wherein the determining further includes comparing respective names associated with each of the components of the second plurality with respective names associated with each of the components of the first plurality.